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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Knud Thomsen

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LERNER GREENBERG STEMER LLP
P O BOX 2480
HOLLYWOOD, FL 33022-2480

EXAMINER

SCHNEIDER, CRAIG M

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

11/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,506	Applicant(s) THOMSEN, KNUD	
	Examiner CRAIG M. SCHNEIDER	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/2/09 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the spallation target must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 3, 4, and 7 are rejected under 35 U.S.C. 102(b) as anticipated by Schlect et al. (5,605,174) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bauer (4,360,495).

Schlecht et al. disclose a solid/liquid interface having a liquid facing surface (inside surface of 20), the surface having smooth (84) and non-smooth structures (79), the non-smooth structures disposed for maintaining gas bubbles proximate to the surface. The maintaining gas bubbles proximate to the surface is functional language and the structure that has been indicated is capable of performing this.

In the event that the claim limitation "spallation target" is not considered to be intended use. Bauer discloses a spallation target (5) comprising a window (3)(col. 2, line 48 to col. 4, line 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a spallation target as disclosed by Bauer with the

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solid/liquid interface of Schlect et al., in order to utilize the device in a window of a spallation target.

Regarding claim 3, the non-smooth structures include at least one protrusion arranged on the surface extending in a direction away from the surface. The entire structure (79) is the protrusion.

Regarding claim 4, the at least one protrusion extends at an angle as seen in Figure 5 to the surface thereby cooperating with flat portions of the surface so as to define a recess (area where 79 extends to meet 84) disposed to maintain at least one bubble proximate to the surface.

Regarding claim 7, the surface is made of metal per the hatching in Figure 5.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as anticipated by Fulton (3,827,388) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bauer (4,360,495).

Fulton disclose a solid/liquid interface having a liquid facing surface (27), the surface having smooth (33) and non-smooth structures (34), the non-smooth structures disposed for maintaining gas bubbles proximate to the surface (the vertical riser will create an eddy current that will maintain the gas bubbles proximate the surface)(col. 5, lines 4-63).

In the event that the claim limitation "spallation target" is not considered to be intended use. Bauer discloses a spallation target (5) comprising a window (3)(col. 2, line 48 to col. 4, line 13).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a spallation target as disclosed by Bauer with the solid/liquid interface of Fulton, in order to utilize the device in a window of a spallation target.

Regarding claims 2 and 5, bubble source means (45) disposed for producing bubbles proximate to the surface.

Regarding claim 3, the non-smooth surface (34) protrudes from the smooth surface (27) as indicated in Figure 5.

Regarding claim 4, the protrusion as indicated above and as seen in Figure 5 extends at an angle from the smooth surface (27) and maintains an air bubble proximate to the surface.

Regarding claim 6, the bubble source (45) further includes a cavity (50) arranged between the feeding duct (46) and the outlet (51) at the surface so as to define a gas bleeding hole.

Regarding claim 7, the surface is made of metal per the hatching in Figure 5.

6. Claims 1-7 are rejected under 35 U.S.C. 102(b) as anticipated by over Petrov et al. (3,659,542) or, in the alternative, under 35 U.S.C. 103(a) as obvious Bauer (4,360,495).

Petrov et al. disclose a solid/liquid interface having a liquid facing surface (1), the surface having smooth (area of 1 in between the steps 5) and non-smooth structures (5), the non-smooth structures disposed for maintaining gas bubbles proximate to the surface (col. 1, line 64 to col. 3, line 11).

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In the event that the claim limitation “spallation target” is not considered to be intended use. Bauer discloses a spallation target (5) comprising a window (3)(col. 2, line 48 to col. 4, line 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a spallation target as disclosed by Bauer with the solid/liquid interface of Petrov et al., in order to utilize the device in a window of a spallation target.

Regarding claim 2, bubble source means (7) disposed for producing bubbles proximate to the surface.

Regarding claim 3, the non-smooth surface (5) includes a protrusion arranged on the surface extending in a direction away from the surface.

Regarding claim 4, the recess is the area between 6 and 1 that 8 is located inside of as seen in Figure 3 and this recess maintains an air bubble as indicated in Figure 7.

Regarding claim 5, the bubble source includes at least one gas feeding duct arranged such that its outlet is proximate to the surface as can be seen in Figure 3.

Regarding claim 6, the bubble source further includes a cavity (area between the feeding duct and the outlet) arranged between the feeding duct (area above 7 in Figure 3) and the outlet (area of 7 that is flush with the surface 1) at the surface so as to define a gas bleeding hole.

Regarding claim 7, the surface is made of metal per the hatching in Figure 3.

Response to Arguments

7. Applicant's arguments filed 10/2/09 have been fully considered but they are not persuasive.

The applicant presented the argument that the claim language "In a pulsed spallation target, a window comprising" is written as a combination of the target and the window and not simply as a preamble to the body of the claim. The applicant further indicated that case law in re DEAN supported this conclusion. The examiner stated that the position that was taken is that the language is in the preamble and therefore is considered intended use. The examiner further indicated that the specification on page 1, lines 3-13 indicates that this window could be used on various applications. One of the applications is a pulsed spallation window. The other applications are ship components, such as parts of hulls, hydrofoils, propellers to name a few. This further would support that the pulsed spallation target is considered to be intended use. The examiner further reviewed the in re DEAN case. It was determined that the "In a cameraelements" is providing an environment for the timing apparatus which is described after comprising. The decision further states that the "shutter-timing apparatus" is not a combination of the shutter and the timing apparatus but is a timing apparatus for a shutter, not a combination of the shutter and timing apparatus. Per the above decision, it is the examiner's position that the claim is directed to a window that has the features as stated after comprising and that the "In a pulsed spallation target" is setting forth the environment that the window is in, i.e. intended use.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRAIG M. SCHNEIDER whose telephone number is (571)272-3607. The examiner can normally be reached on M-F 8:00 -4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Craig M Schneider/
Examiner, Art Unit 3753
November 5, 2009